

Notes on nest construction by the Indian House Crow *Corvus splendens* and other aspects of its breeding biology in Mombasa, Kenya

Colin Ryall

The Indian House Crow *Corvus splendens*, first recorded in Mombasa in 1947 (Mackworth-Praed & Grant 1960), has now proliferated to pest proportions (Ryall, in prep). As part of a programme to reduce this population, the Municipal Council mounted a campaign to destroy their eggs and chicks. Since October 1985, a team of workers from the Parks and Public Health Departments has been employed during the breeding seasons in bringing down House Crow nests, chicks present. The Kenya Society for the Protection of Animals was consulted. The exercise is carried out throughout Mombasa Island.

Though well studied in India, *C. splendens* has received little attention outside its native range. I was able to collect some data while present at the first two nest collection sessions (as an adviser on the control programme) on 18 October and 1 November 1985. Although these sessions have been continued over the subsequent years, albeit erratically, only information of a general nature could be obtained.

Breeding season

Yields of eggs and chicks from the nest collection campaign indicate a breeding season starting in mid-September with peak numbers in November and December and then tailing off slowly to May. Low numbers of eggs and chicks have been collected in May, in 1986, 1987 and 1988. There is no evidence of breeding in June to August, however.

This indicates a much broader span than the breeding seasons of October–January given by Moreau (1950) and September–January of Brown & Britton (1980), although the peak period is in close agreement.

Based on these observations, the nest collection campaign is routinely carried out between September and May.

Nest construction

House Crows in Mombasa can be seen collecting nesting material from early September, usually picking up items from the ground in parks, gardens, refuse tips, etc., but sometimes tugging twigs from trees. Nests take the form of untidy platforms of twigs and sticks of up to 30 cm in diameter sometimes containing quantities of steel wire, with a cup-like central hollow about 15 cm across which is lined with grass, hair and other soft fibrous material. The nests closely resemble those described by Lamba (1963) and Ali & Ripley (1968–74) from India. House crows do not nest far from human habitation.

The first nest collection of 18 November 1985 at Mzimle, a large area of grassy parkland with numerous trees in the less crowded periphery of Mombasa Island. Both sites are favoured for breeding by House Crows. Table 1 presents observations on nest construction made on these occasions.

There was a marked difference in the material utilized for the construction of nests at the two sites. At Makadara Park 68 of the 69 nests collected were constructed largely or entirely of steel wire and other metal objects, containing few or no twigs, but were usually lined with fine material, as described earlier. Those at Mzimle were almost entirely composed of twigs and sticks with few containing any metallic objects. Inclusion of wire

Table 1 *Mean heights and nesting material used in nests collected at Makadara Park and Mzimle, Mombasa.*

Site	No of nests collected	Mean height of nests (metres)	Nesting material
Makadara Park	69	7.3	mainly wire + few twigs or entirely wire
Mzimle	90	6.4	entirely twigs and few with wire

greatly increases the weight of nests and many from Makadara Park weighed 2 to 3 kg. One entirely metal nest of 3.5 kg from this site has been lodged with the National Museum in Nairobi. One nest was composed entirely of pieces of galvanized wire instead of the usual rusting wire. Many workers have described wire nests built by House Crows in India and in their detailed study on nidification in Bombay House Crows Altevogt & Davis (1979) described wire nests weighing up to 6 kg and a 'communal' wire nest of 25 kg in Calcutta. Such nests probably arise from repeated addition of nesting material in concurrent years as, unlike nests constructed of twigs, they form more or less permanent structures which can withstand the rainy season.

Altevogt & Davis (1979) observed that metal nests were frequent in Indian cities and felt that House Crows develop a preference for wire. Lamba (1976) described the nests built in farming areas as being composed mainly of twigs. The difference observed in the Mombasa nests probably reflects merely the difference in available nesting material rather than any preference on the part of the crows. Fallen twigs and leaves in Makadara and other parts of the town centre are cleared and, in fact, dumped at Mzimle so that crows collect nesting material from the many building sites, motor and *jua kali* (open-air) yards in the vicinity. On the other hand, twigs are plentiful in Mzimle. Other items which were used included strips of metal, fragments of plastic bags, electrical flex and string. In India, nests have been reported containing large numbers of gold and silver spectacle frames (Dewar 1905) and aluminium coat hangers (Altevogt & Davis 1979). Although other corvid species do use wire for nest-building it is apparently an infrequent practice (Walford 1931) presumably because they are less urbanized in the breeding behaviour.

Nests were situated at an average height of 7.3 m at Makadara and 6.4 m at Mzimle and, as reported by Ali & Ripley (1968-74), none was found lower than 4 m. Their heights were estimated using 5-m poles for reference. Large trees contained up to six nests but these were always well separated. Lamba (1976) described House Crows as maintaining a nesting territory, usually of a few metres and counted up to nine nests in large trees (Lamba 1963).

Densely leafed trees, such as neem, mango and weeping-fig, were most favoured as nesting sites, although more open species such as casuarina and coconut palms were also sometimes utilized. During the three years of the nest collecting campaign all nests located have been situated in trees. In Bombay and other Indian cities, House Crows often nest on man-made structures such as lamp posts, pylons and buildings which reflects a shortage of trees (Baker 1932). Goodwin (1986) indicates their preference for trees as nesting sites. The habit of building metal nests on electrical installations occasionally results in short circuits, such as those that repeatedly delayed trains in Bombay in 1922 (Ali & Abdulali 1937).

Clutch size and eggs

Of 15 nests containing young chicks and therefore representing complete clutches, two nests contained two eggs, five contained three, seven contained four and one contained five, with an average of 3.9 eggs per nest (Figs. 3 and 4). This tallies closely with the observations of Lamba (1976) where he recorded average clutch sizes of 4.1 among 65 nests in 1965 and 3.9 among 58 nests in 1966. Eggs were greyish green with irregular brown brown speckles and closely resemble those described by Indian workers (Ali & Ripley 1968–74, Lamba 1979).

References

- ALI, S. & ABDULALI H. 1937. The birds of Bombay and Salsette. *Journal of the Bombay Natural History Society* 39: 83–102.
- ALI, S. & RIPLEY, S.D. 1968–74. *Handbook of the birds of India and Pakistan*. Vol 5. Oxford University Press.
- ALTEVOGT, R. & DAVIS, T.A. 1979. Urbanization in nest building of Indian House Crows. *Journal of the Bombay Natural History Society* 76: 283–290.
- BAKER, E.C.S. 1932. *Nidification of the birds of the Indian Empire*. 1. London: Taylor & Francis
- DEWAR, D. 1905. *The Indian Crow*. Calcutta: Thacker, Spink & Co.
- GOODWIN, D. 1986. *Crows of the world*. 2nd ed. Ithaca: Cornell University Press.
- LAMBA, B.S. 1963. The nidification of some common Indian birds—Part 1. *Journal of the Bombay Natural History Society* 60: 121–133.
- LAMBA, B.S. 1976. The Indian crows—A contribution to their breeding ecology, with notes on brood parasitism on them by the Indian Koel. *Rec. Zoological Survey India*. 71: 183–300.
- MOREAU, R.E. 1950. The breeding seasons of African birds—1. Land birds. *Ibis* 92: 223–267.
- RYALL, C. (in prep). The pest status of the Indian House Crow, *Corvus splendens*, in Mombasa, and a survey of its expansion of range in coastal Kenya. *Proceedings of the Seventh Pan-African Ornithological Congress, Nairobi*.
- WALFORD, N.T. 1931. Carrion-crow building with wire. *British Birds* 24: 51.

*Dr Colin Ryall, 10 Bye Green, Weston Turville, Aylesbury, Buckinghamshire,
HP22 5RU, England*